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**REMARKS**

The Examiner objected to the disclosure allegedly because "the terms "chip and problems" are misspelled on page 2, line 19." In response, Applicants have amended the specification to clarify the invention.

The Examiner objected to the abstract allegedly because the abstract recites the term "disclosed". In response, Applicants have amended the abstract to clarify the invention.

The Examiner rejected to claims 27-29, 31, 34-35 under 35 U.S.C. §102(b) as allegedly being anticipated by Jones, Jr. et al. (U.S. 4,835,118).

The Examiner rejected claims 17 and 24-25 under 35 U.S.C. §103(a) as allegedly being unpatentable over Nishimura et al. (U.S. 4,462,150).

The Examiner rejected claims 18-23 under 35 U.S.C. §103(a) as allegedly being unpatentable over Nishimura et al. (U.S. 4,462,150) in view of Jones, Jr. et al. (U.S. 4,835,118) and Mehta et al. (U.S. 5,795,627).

The Examiner rejected claims 30, 32-33 and 36 under 35 U.S.C. §103(a) as allegedly being unpatentable over Jones, Jr. et al. (U.S. 4,835,118) in view of Mehta et al. (U.S. 5,795,627).

Applicants respectfully traverse the §102(b) and §103(a) rejections.

35 U.S.C. §102(b)

The Examiner rejected to claims 27-29, 31, 34-35 under 35 U.S.C. §102(b) as allegedly being anticipated by Jones, Jr. et al. (U.S. 4,835,118).

Applicants respectfully contend that Jones, Jr. does not anticipate claim 27, because Jones, Jr. does not teach each and every feature of claim 27. For example, Jones, Jr. does not teach the feature: "providing a semiconductor substrate having a semiconductor material therein, wherein the semiconductor substrate includes a programmable element region having the programmable element, and wherein the programmable element comprises the semiconductor material". The language of the preceding feature of claim 27 requires that the semiconductor substrate and the programmable element comprise the same semiconductor material. Although Jones discloses that the programmable element 44 comprises polysilicon, Jones does not disclose that the semiconductor substrate 26 contains polysilicon or even silicon.

Based on the preceding argument, Applicants respectfully maintain that Jones, Jr. does not anticipate claim 27, and that claim 27 is in condition for allowance. Since claims 28-36 depend from claim 27, Applicants contend that claims 28-36 are likewise in condition for allowance.

In addition, the claims which depend from claim 27 have independent patentable features. For example with respect to claim 29, Jones does not disclose the feature: "wherein the doping step is performed after the step of forming a layer". As another example with respect to claim 31, Jones does not disclose the feature: "wherein the laser radiation has a wavelength such that the laser radiation is essentially unabsorbed by the cap portion of the layer". As yet another

example with respect to claim 34, Jones does not disclose the feature: "wherein the method further comprises rapidly cooling the programmable element from the elevated temperature to an operating temperature".

35 U.S.C. §103(a): Claims 30, 32-33, and 36

The Examiner rejected claims 30, 32-33 and 36 under 35 U.S.C. §103(a) as allegedly being unpatentable over Jones, Jr. et al. (U.S. 4,835,118) in view of Mehta et al. (U.S. 5,795,627).

Since claims 30, 32-33 and 36 depend from claim 27, which Applicants have argued *supra* to be patentable under 35 U.S.C. §102(b), Applicants maintain that claims 30, 32-33 and 36 are not unpatentable under 35 U.S.C. §103(a).

In addition, Applicants respectively contend that the Examiner's argument for modifying Jones by the alleged teaching in Mehta is not persuasive. The Examiner argues that "Jones, Jr. et al. does not specifically show the wavelength in the range as claimed, the cap portion including silicon dioxide or silicon nitride and providing trench isolation regions. However, Mehta et al. teaches the wavelength in the range as claimed, the cap portion including silicon dioxide or silicon nitride and providing trench isolation regions (col. 3, lines 18-43, col. 5, lines 10-14, col. 7, lines 30-33). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Jones, Jr. et al. reference by including the wavelength, the cap portion including silicon dioxide or silicon nitride and providing the trench isolation regions as taught Mehta et al. in order to avoid damage (Mehta et al., col. 3, lines 18-21)."

In response to the preceding argument by the Examiner, Applicants maintain that Mehta is able to avoid damage for reasons totally unrelated to: the laser wavelength, the silicon dioxide or silicon nitride material of the cap portion, and the trench isolation regions. Mehta teaches that damage is avoided by melting the surface 165 of the semiconductor substrate 170 to a sufficient

depth, which is controlled by the energy fluence of the laser beam. See Mehta, col. 6, line 39 - col. 7, line 3.

**35 U.S.C. §103(a): Claims 17 and 24-25**

The Examiner rejected claims 17 and 24-25 under 35 U.S.C. §103(a) as allegedly being unpatentable over Nishimura et al. (U.S. 4,462,150).

Applicants respectfully contend that claim 17 is not unpatentable over Nishimura, because Nishimura does not teach or suggest each and every feature of claim 17. For example, Nishimura does not teach or suggest the feature: "comparing said test resistance value to said specific precise resistance; and if said test resistance value does not equal said specific precise resistance, exposing said programmable element to said actinic radiation for said first length of time and repeating said steps of determining and comparing said resistance values".

The Examiner argues: "Nishimura et al. does not specifically show determining a test resistance value of the programmable element and comparing to a specific precise resistance. However, Nishimura et al. measured the resistance value and use the value to determine that the circuit elements and the spare element were electrically connected (col. 3, lines 38-47; col. 4, lines 20-25). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to recognize that Nishimura et al. is selecting a precise resistance in order to confirm the electrical activation process and to avoid defects (col. 3, lines 38-47)".

As a first reason why Nishimura does not teach or suggest the preceding feature of claim 17, Applicants respectfully contend that the Examiner's argument that "Nishimura et al. is selecting a precise resistance" is incorrect. Nishimura is teaching a method that makes the programmable element electrically conductive such that the circuit elements and the programmable element are electrically connected, which can be satisfied over a wide range of electrical resistances of the programmable element and does not require the programmable

element to have a specific resistance.

As a second reason why Nishimura does not teach or suggest the preceding feature of claim 17, Applicants respectfully contend that the Examiner has not cited anything in Nishimura that teaches or suggests "comparing said test resistance value to said specific precise resistance".

As a third reason why Nishimura does not teach or suggest the preceding feature of claim 17, Applicants respectfully contend that Nishimura does not teach or suggest "repeating said steps of determining and comparing said resistance values" if "said test resistance value does not equal said specific precise resistance". The Examiner does not even allege that Nishimura teaches or suggests said "repeating".

Based on the preceding arguments, Applicants respectfully maintain that claim 17 is not unpatentable over Nishimura, and that claim 17 is in condition for allowance. Since claims 18-26 depend from claim 17, Applicants contend that claims 18-26 are likewise in condition for allowance.

**35 U.S.C. §103(a): Claims 18-23**

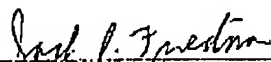
The Examiner rejected claims 18-23 under 35 U.S.C. §103(a) as allegedly being unpatentable over Nishimura et al. (U.S. 4,462,150) in view of Jones, Jr. et al. (U.S. 4,835,118) and Mehta et al. (U.S. 5,795,627).

Since claims 18-23 and 36 depend from claim 17, which Applicants have argued *supra* to be patentable under 35 U.S.C. §103(a), Applicants maintain that claims 18-23 are not unpatentable under 35 U.S.C. §103(a).

**CONCLUSION**

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below.

Date: 02/16/2004

  
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